

THE MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

In the Matter of Determination of Substantive
Compliance with the Montana Major
Facility Siting Act for Bonneville Power
Administration's Proposed Rebuild of the
Libby to Troy 115-kV Transmission Line

DRAFT CONCLUSIONS AND
DETERMINATION

DEPARTMENT CONCLUSIONS

1. The need for replacement of the Bonneville Power Administration (BPA) Libby-Troy 115-kV transmission line is based on reliability of service and has been identified in the Final Environmental Impact Statement, Rebuild of the Libby (Flathead Electric Cooperative) to Troy Section of BPA's Libby to Bonners Ferry 115-kilovolt Transmission Line, May 2008 (FEIS). For facilities for which reliability of service is the stated basis for need, the Department must first find that the reliability of the transmission line will be violated within two years of the date the proposed facility is to be placed in service if the proposed facility is not built or some other solution is not implemented pursuant to ARM 17.20.1606(1)(g)(i). The BPA Libby-Troy transmission line is more than 50 years old and in a deteriorating condition, with many wooden cross-arms rotting and metal parts such as conductor fittings corroding (FEIS, p. 1-1). Testing of conductor fittings indicates that failures of the fittings are imminent (FEIS, p. 1-2). In 2003 a conductor fitting failed and the conductor fell to the ground, starting a fire. For the Libby-Troy transmission line, the average sustained outage count of 1.4 outages per year already exceeds the average sustained outage count of 0.7 outages per year for other 115-kV lines in the BPA system (Robinson 2008). Given the deteriorating state of the current transmission line, the Department finds that BPA's reliability criteria will be violated within two years of the date the proposed rebuild is to be completed if the proposed rebuild does not take place or some other solution is not implemented. For facilities for which reliability of service is the stated basis for need, the Department must also find that the value of savings from reduced outages plus any value for general reliability of service, over the life of the facility, is reasonably likely to exceed the cost of the proposed facility pursuant to ARM 17.20.1606(1)(g)(ii). The cost of the rebuild for the Libby-Troy transmission line is estimated at \$17.0 million, or \$1 million per mile (FEIS, p.1-2).

While the value of savings from reduced outages has not been quantified, the Department believes that the savings would be substantial, given the state of the existing transmission line. In addition, the existing structures would be replaced with structures that have been substantially improved through advanced technology and manufacturing processes, further reducing outage rates. Over the life of the rebuilt transmission line, the Department believes that the savings from reduced outages plus the value for general reliability of service that will be realized is reasonably likely to exceed the proposed rebuilt transmission line's cost of \$17.0 million.

2. The nature of the probable environmental impact that would result from the proposed rebuild of the Libby-Troy 115-kV transmission line has been identified in the FEIS. The FEIS indicates that long-term adverse effects to most resources would occur at low levels after implementation of proposed mitigation measures (FEIS, Table S-1 and Appendix L). These resources are soils, geology and water resources; land use; vegetation effects to threatened and endangered species, forest sensitive species and old growth; wetlands and floodplains; wildlife; Coeur d'Alene salamanders; visual resources; historic resources; recreation resources; noise, public health and safety; and air quality during project operation and maintenance. Resources that would have low to moderate long-term adverse effects after implementation of proposed mitigation measures are vegetation from introduction of noxious weeds, and prehistoric resources and traditional cultural properties (FEIS, Table S-1 and Appendix L). Resources that would have no substantial long-term adverse effects are fish, amphibians and reptiles (except for Coeur d'Alene salamander); social and economic resources, and transportation (FEIS, Table S-1 and Appendix L). The rebuilt line would continue to cross steep glaciated mountain slopes on Bobtail Ridge and rugged topography with slopes between 30 and 70 percent on the south side of US Highway 2 near Kootenai Falls (FEIS, p. 3-6 and 3-7) where erosion control measures would be implemented. The rebuilt line would continue to cross the Kootenai Falls Wildlife Management Area west of Libby (FEIS, p. 3-22) where BPA would coordinate timing of construction with Montana Fish, Wildlife and Parks.

BPA has proposed to reroute the transmission line in one area near Kootenai Falls to decrease cultural, visual, and fish and wildlife impacts (FEIS, p.2-19). The proposed 0.75-mile realignment would locate the rebuilt line at the eastern edge of the Kootenai Falls Cultural Resource District, decreasing impacts to a culturally significant area for local area tribes. The proposed realignment would decrease impacts to the visual setting of the Kootenai Falls

recreational area, but would increase visual impacts along the south side of Highway 2 adjacent to the rebuilt line (FEIS, p. 3-158). The proposed realignment would cross the Kootenai River in a location approximately 0.75 mile above the existing crossing. The Kootenai River through this reach is a candidate for listing as a Wild, Scenic, or Recreation River (FEIS, p. 4-12). The proposed realignment would decrease impacts to grizzly bear habitat in Bear Management Unit 10 on the north side of the Kootenai River, but would require construction of 0.2 mile of new road adjacent to and south of Highway 2 in Bear Management Unit 1 (FEIS, p. 3-119). The proposed realignment would eliminate the need for clearing and bridge construction in the floodplain and riparian wetlands of China Creek located on the north side of the Kootenai River, but would require clearing of tall growing vegetation within riparian wetlands of the Kootenai River (FEIS, p. 3-58). The proposed realignment would potentially increase the risk of line collision for bald eagles and other migratory birds by moving the line to a new location (FEIS, p. 3-120), and potentially displace Coeur d'Alene salamanders from a portion of their habitat along the south side of Highway 2 where five structures would be placed in a bryophyte-covered talus slope (FEIS, p. 3-146). The proposed realignment would place one new structure within the 1,200-foot wide floodplain of the Kootenai River (FEIS, p. 3-58).

Some vegetation would be damaged or destroyed during line construction and soil would be exposed to construction disturbance, potentially resulting in soil erosion. BPA has proposed a plan to control erosion during project construction (FEIS, p. 3-14) and would be required to implement a storm water pollution prevention plan under Montana water quality statutes. The Department would monitor the project to ensure that areas disturbed during construction are reclaimed and revegetated.

The mitigation measures set forth in the FEIS are amended as follows to further decrease impacts resulting from introduction of noxious weeds:

To mitigate for vegetation effects from introduction of noxious weeds, at least 15 days prior to any clearing of land or ground disturbance for the Libby-Troy rebuild project, BPA shall notify the Lincoln County Weed Board (Board) of the proposed activity and shall submit a written plan specifying the methods to be used to re-establish a cover of beneficial plants. The plan shall describe the time and method of seeding, fertilization practices, recommended plant species, use of weed-free seed, and the weed management procedures to be used. The Board may require revisions to bring the plan into

compliance with the district weed management plan. Following approval by the Board, the signed plan constitutes a binding agreement between the Board and BPA.

3. BPA's proposed rebuild of the Libby-Troy 115-kV transmission line minimizes adverse environmental impacts. Reasonable alternatives to BPA's proposal were considered in the FEIS (FEIS, pp. 2-14 to 2-25). In large part, the alternatives were dismissed because they failed to achieve project objectives to maintain transmission system reliability to industry standards, meet BPA's contractual and statutory obligations, minimize environmental impacts, and minimize costs to the extent achieved by the proposed action. Section 75-20-301(1)(c), MCA.

Most of the rebuilt line would stay in its current location. Voltage would remain the same as the existing line and span length for H-frame structures would remain the same. New structures, including H-frame, wood single-pole and steel single-pole structures, would range from 60 to 105 feet in height compared to 60 to 80 feet in height for the existing line. An additional 25 acres of corridor width would be needed for the rebuilt line where the existing 60-foot-wide right-of-way would be increased to 80 feet (FEIS, p. 2-2). BPA would acquire additional permitted areas on federal (National Forest) land and additional right-of-way easement width on other lands where needed to construct, operate, rebuild, access and maintain the line. These acquisitions would occur along the existing line as described on pages S-3 and S-4 of the FEIS: between structures 15/18 to 17/5, 28/7 and 29/1, and 30/2 to 31/1 on National Forest lands; between structures 18/1 to 18/6 on private lands if the centerline is moved two feet to the north of its current location; between structures 18/6 to 18/8, 28/3 to 28/7, 29/1 to 30/2, and 31/1 to BPA's Troy Substation all on private lands; and between structures 26/1 to 26/8 on Lincoln County lands. West of Libby a proposed rebuild segment 650 feet in length near Bobtail Road between structures 17/15 and 17/18 would require new easement on the north side of Kootenai River Road if the centerline is moved to the north side of the road, or additional easement width on the south side of the road if the centerline remains in its current location (FEIS, p. S-3).

The proposed line and alternatives would not cross any of the following areas: wilderness areas, national primitive areas, national wildlife refuges, wildlife habitat protection areas, national parks and monuments, state parks, national recreation areas, corridors of rivers in the national wild and scenic rivers system, roadless areas of 5,000 acres or greater in size managed

by federal or state agencies to retain their roadless character, and specially managed buffer areas surrounding national wilderness areas and national primitive areas.

The proposed location for the rebuild of the Libby-Troy transmission line, including the Kootenai River Crossing realignment, achieves the best balance of the following preferred location criteria found in Section 3.1, Circular MFSA-2 pursuant to ARM 17.20.1607 (1)(a)(iv).

Where there is the greatest potential for general local acceptance of the facility; and

To allow for selection of a location in nonresidential areas;

Approximately 5.6 miles of the proposed rebuild would occur on existing right-of-way through residential areas on the west side of Libby. This location does not have general local acceptance, as some residents adjacent to the existing line prefer the line be moved. The Department compared potential effects of rebuilding the line in the existing right-of-way to potential effects of the Quartz Creek and Pipe Creek realignments that would move the line from residential areas. Although the Quartz Creek realignment would locate the line in a nonresidential area and restore full use of the existing corridor to landowners of the Big Horn Terrace subdivision, overall and across other resources, the Quartz Creek and Pipe Creek realignments were not compatible with a finding of minimum adverse impact (FEIS, Table S-1 and Appendix L).

Where they utilize or parallel existing utility and/or transportation corridors;

The proposed location would utilize an existing utility and transportation corridor, and would be constructed where existing roads can be used in large part to access the facility.

In logged areas rather than undisturbed forest, in timbered areas;

The Department evaluated the extent to which routing alternatives would be located in logged areas rather than undisturbed forest. While removal of tall-growing vegetation and danger trees would occur adjacent to the existing right-of-way, the realignment options would result in removal of tall-growing vegetation in stands of designated old growth and stands with old growth characteristics (Pipe Creek) and in designated old growth and previously logged areas (Quartz Creek) (FEIS, Tables 3-19 and 3-20 p. 3-44). Overall, the existing right-of-way better avoids undisturbed forest.

In geologically stable areas with non-erosive soils in flat or gently rolling terrain;

Most of the rebuilt line would be located in geologically stable areas through the valley floor of the Kootenai River, while line segments on Bobtail Ridge and south of Kootenai Falls along old Highway 2 would continue to be located in steep areas with more erosive soils.

In roaded areas where existing roads can be used for access to the facility during construction and maintenance;

The rebuilt line location would use existing roads to a greater degree than would alternatives.

So that structures need not be located on a floodplain;

The proposed rebuild largely avoids placement of structures in a floodplain. One new structure would be located in the floodplain on the Kootenai River Crossing realignment.

Where the facility will create the least visual impact;

Areas of high visual impact would occur along the existing right-of-way where sensitive viewers are adjacent to the cleared right-of-way (FEIS, p. 3-152 to 3-155), while high visual impacts would occur along the three realignments on NFS lands where visual quality objectives would not be met (FEIS, p. 3-157 to 3-159). Levels of visual impact following implementation of mitigation measures would be comparable on the various alternatives.

A safe distance from residences and other areas of human concentration;

The Department evaluated the extent to which the proposed rebuild would be located a safe distance from residences and other areas of human concentration. The proposed rebuild would be required to adhere to standards of the National Electric Safety Code and would meet the state standard for electric field strength in residential areas. Magnetic field strength at the edge of the right-of-way using proposed H-frame structures would be approximately the same as the existing line (FEIS, p. 3-193 Figure 3-21a). In addition, an average magnetic field exposure between 3 and 4 milligauss for some residences along the existing right-of-way (4 houses in the Big Horn Terrace area have average magnetic fields above 4 milligauss) would be compatible with current conclusions of independent scientific panels that have provided summaries of the current state of knowledge on electromagnetic and health research (FEIS, p. 3-191 and Appendix J). Meeting recent recommendations that magnetic field strength exceeding 1-2 milligauss should be avoided in residences would not be possible in the Pipe Creek area and Big Horn Terrace subdivision. However, these recommendations are not known to have received peer review outside of the group that developed them. Based on this information, the Department

believes that the proposed rebuild in the existing right-of-way would not substantially increase safety hazards.

Lastly, the proposed rebuild location would be in accordance with applicable local and state management plans where public lands are crossed (FEIS, p. 4-9). The Forest Service in its Record of Decision for the proposed rebuild would determine whether to grant a Special Use Permit for any additional area required beyond that granted under the existing permit.

The project would meet state standards for noise and electric field strength in residential and subdivided areas (FEIS p. 3-186 and 3-189) although affected landowners may waive these requirements. The project would comply with minimum standards set forth in the National Electric Safety Code (FEIS, p. 2-7). The project as designed does not meet criteria of the Federal Aviation Administration for submittal and review for safety marking because new structures and conductor would be less than 200 feet above the ground (FEIS, p. 4-17).

4a. BPA's proposed rebuild of the Libby-Troy 115-kV transmission line does not locate any of the transmission line underground because the cost of underground construction can exceed the cost of overhead construction by a factor of 5 to 10, and the duration of outages and maintenance costs for underground lines typically exceeds that for overhead lines. Section 75-20-301(1)(d)(i), MCA. b. The proposed rebuild is consistent with regional plans for expansion of the BPA transmission system serving northwestern Montana. Section 75-20-301(1)(d)(ii), MCA. c. BPA's proposed rebuild of the Libby-Troy 115-kV transmission line will serve the interest of utility system economy and reliability. Information evaluated by the Department indicates that the value of the savings from reduced outages and reduced likelihood of fires, plus the value for increased reliability of service, is reasonably likely to exceed the cost of the proposed project. Section 75-20-301(1)(d)(iii), MCA.

5. BPA's proposed rebuild of the Libby-Troy 115-kV transmission line, including the location of the Kootenai Falls realignment as discussed in Paragraph (2), conforms to applicable state and local laws and regulations (FEIS, p. 4-9 to 4-11). Section 75-20-301(1)(e), MCA.

6. The need to rebuild the transmission line is discussed in Paragraph (1) and the nature of the probable environmental impacts is discussed in Paragraph (2). Rebuilding the transmission line would result in more reliable service due to reduced number and length of line outages, reduced likelihood of fires, and a slight positive impact on the regional economy during

construction through the local procurement of materials and equipment and spending by construction workers.

In terms of costs, rebuilding the transmission line would result in impacts to soils, geology, and water resources; land use; vegetation including introduction of noxious weeds; wetlands and floodplains; wildlife; amphibians such as Coeur d'Alene salamander; visual resources; historic and cultural resources; prehistoric resources and traditional cultural properties; recreation; noise, public health and safety, transportation, and air quality. Mitigation measures are identified to reduce or compensate for these impacts. There would be short-term increases in local expenditures through purchase of goods and services. The rebuilt line would comply with the state electric field strength standard and would comply with standards of the National Electric Safety Code. Magnetic field strength using proposed H-frame structures would be approximately the same as the existing line (FEIS, p. H-44 Figure 3a).

The proposed rebuild of the Libby-Troy Transmission Line Rebuild Project replaces a transmission line that has reached or exceeded the end of its useful life and, therefore, enhances reliability of electrical service for customers served by the transmission line. The Department concludes that the proposed project serves public interest, convenience, and necessity. Section 75-20-301(1)(f), MCA.

7. The line would be rebuilt over two years. Some access road work, vegetation clearing, and other construction preparation activity would occur in the year preceding line reconstruction. Work to build a series of retaining walls at Black Eagle Rock near the entrance to Sheep Range Road west of Libby would occur in the year preceding line reconstruction to enable construction access. Prior to the start of construction on the retaining wall and line reconstruction or any other in-stream construction activity, BPA shall obtain any necessary water quality decision, opinion, order, certification or permit as required by Section 75-20-216(3), MCA. Section 75-20-301(1)(g), MCA.

8. The Department evaluated the use of public land for siting of portions of the Libby-Troy 115-kV transmission line and determined that the use of public land was not as economically practicable as the use of private land overall. The use of public land for siting of portions of the line was not compatible with a finding of minimum adverse environmental impact for the proposed project. Section 75-20-301(1)(h), MCA.

9. The Department shall monitor reconstruction of the Libby-Troy transmission line to ensure that mitigation measures listed in the FEIS and the substance of environmental specifications developed by the Department are carried out and that reclamation and revegetation efforts are successful. In addition, BPA shall ensure that the standards listed in ARM 17.20.1607(2)(a)(i), (c), and (d) are met.

10. The proposed rebuild by BPA of the 115-kV transmission line between Libby and Troy complies with the substantive standards of the Major Facility Siting Act and the Administrative Rules adopted by the Board of Environmental Review, if BPA rebuilds, maintains, and operates the transmission line in compliance with the following:

- A. Prior to the start of construction, BPA shall obtain any necessary water quality decision, opinion, order, certification or permit as required by Section 75-20-216(3), MCA.
- B. BPA shall rebuild the Libby-Troy transmission line within 60 and 80-foot-wide construction rights-of-way, within 50-foot-wide easements for new access roads, and within 20-foot-wide easements for existing access roads. BPA shall operate the transmission line within an 80-foot-wide permitted area on federal lands and right-of-way on other lands.
- C. BPA shall implement mitigation measures identified in the FEIS including department environmental specifications for the rebuild of the Libby-Troy transmission line.

Robinson, Kirk. 2008. Email from Kirk Robinson, Bonneville Power Administration, April 24, 2008 to Tom Ring and Nancy Johnson, Montana Department of Environmental Quality.

DEPARTMENT DETERMINATION

The proposed rebuild of the Libby to Troy transmission line complies with the substantive standards of the Montana Major Facility Siting Act if BPA rebuilds, maintains, and operates the transmission line and associated facilities in compliance with the Findings of the Department herein stated.

Dated this ____ day of _____ 2008.

Richard H. Opper
Director
Montana Department of Environmental Quality